

King Creek FMU

The King Creek FMU is 51,828 acres. This FMU is entirely within the Klamath National Forest DPA. The WUI community at risk occurs primarily along the Klamath River corridor.

Fire Protection Responsibility	Acres	Percent of FMU
Klamath National Forest	51,828	100%
Wildland Urban Interface	Acres	Percent of FMU
Community At Risk	1,573	3%
Defense Zone	10,103	19%
Threat Zone	22,106	43%

3.2.2 Guidance

The LMP Management Area specific guidance is listed below.

Management Area	Acres	Percent of FMU
Wilderness	4,080	8%
LSR	11,822	23%
TES Species Habitat	109	<1%
Managed Wildlife	1,654	3%
RNA /SIA /CUA	6,312	12%
Riparian Reserves	7,416	14%
Recreational River	286	1%
Retention	1,674	3%
Partial Retention	7,661	15%
General Forest	8,958	17%
No Data	12	<1%
Private (may include BLM)	1,843	4%

Wilderness

A portion of the Marble Mountain Wilderness is located in the southwest corner of the FMU.

Description

Wilderness areas are mostly pristine landscapes, managed as vestiges of a wild America. Wilderness resources provide specific values such as solitude, physical and mental challenges, and opportunities for scientific study and primitive recreation.

Management Goals

Manage for wilderness characteristics, natural conditions, and ecological processes within each wilderness.

Provide recreationists a primitive and semi-primitive, non-motorized recreation opportunity.

Manage for high air quality.

Utilize forage resources consistent with the 1964 Wilderness Act, as amended.

Desired Future Condition

Each wilderness looks natural, with human disturbances substantially unnoticeable. Ecological processes, including fire, have shaped the vegetative patterns and condition. Some evidence of human influence consistent with the Wilderness Act may be present due to valid mining claims, livestock grazing, and recreational use.

Standards and Guidelines

- MA2-1 To better emphasize wilderness values, manage each wilderness as an integrated resource with inseparable ecosystem parts.
- MA2-2 Minimize the use of motorized equipment and mechanical transport of materials and personnel within wilderness. Carefully analyze the need for motorized equipment and obtain prior documented approval. Schedule such work to avoid disturbance to the public.
- MA2-3 Wilderness values shall predominate if resource conflicts are identified.
- MA2-7 Naturally occurring ecological processes should predominate within wilderness ecosystems.
- MA2-16 Manage smoke from prescribed natural fires (PNF) as a component of the wilderness. Manage prescribed natural fires and prescribed burns (ignited by humans) to reduce future smoke emissions. Coordinate with the proper State and local agencies to meet air quality regulations (see Forest-wide Standards and Guidelines for Air Quality, Fire Management).
- MA2-55 All lightning-started fires will be PNF; unless the fire does not meet the goals and objectives (it then will be declared a wildfire). Permit lightning-caused fires to play their ecological role, as nearly as possible, within the wilderness.
- MA2-56 Each PNF will have a PNF Burn Plan prepared within 48 hours of discovery. Review the Burn Plan daily to assure validity based on current and projected conditions.
- MA2-57 Coordinate fire management actions with forests that share management of the wildernesses.
- MA2-58 A Wilderness Fire Coordinator (WFC) may be established to gather and send out information and aid to the National Forests and Region. The WFC will set priorities for on-going fires within the wilderness areas. The WFC should be at least Nationally qualified as a Prescribed Fire Manager. As a minimum, the WFC should have 1 Fire Information Officer and a Wilderness Resource Advisor.
- MA2-59 Consider all person-caused wildland fires (not management lighted prescribed fires) as wildland fires and use the appropriate suppression response.
- MA2-60 Reduce to an acceptable level the risks and consequences of a wildland fire within or escaping from the wilderness. Assessments of consequences will emphasize potential impacts on residential intermixes, mixed or adjacent landowners, Endangered or Threatened species, etc.

- MA2-61 Permit planned ignitions or management-lighted prescribed fire. This will allow fire to return in a more natural role so managers can select meteorological and fuel situations for future prescribed natural fire. Wilderness fire policy permits the use of management-lighted fires.
- MA2-62 Suppression of wildland fire will use appropriate suppression response and the Minimum Impact Suppression Techniques as outlined in the Forest-wide Fire and Fuels Management Standards and Guidelines.
- MA2-63 Fire prevention will be an important practice within wilderness. Fire prevention activities, such as signing, will concentrate on entrance portals to not diminish the visitor's wilderness experience. Visitor contacts within the wilderness will occur when there is a threat to wilderness preservation or resource protection.
- MA2-64 Develop a PNF implementation schedule. For all the resources, develop the decision flow charts and prescription parameters that meet the resource standards and guidelines.

Emergency use of motorized equipment and mechanical transport within the wilderness must be consistent with the delegated authority and approval process outlined by the Forest Supervisor in the letter dated (XXXXX). It is also expected that a Wilderness Resource Advisor (WRA) will be assigned to every wilderness fire.

When emergency use of motorized equipment is granted, the authorization must be documented using the [Emergency Wilderness Mechanized Transport/Motorized Equipment Use Authorization](#) form.

BAER is only allowed in wilderness if (1) necessary to prevent an unnatural loss of the wilderness resource or (2) to protect life, property, and other resource values outside of wilderness. Normally use hand tools and equipment to install selected land and channel treatments (FSM 2323.43b)

TES Species Habitat

The TES Species habitat consists of a portion of the Ten Bear LSR, five Northern Spotted Owl activity centers and a Peregrine Falcon management area in the vicinity of Dutch Creek.

Description

Each of the T&E species requires different habitat. When the habitat of these species overlap, the management priority shall be placed on the species with the most specialized habitat needs (that is, the rarest occurring habitat).

Management Goals

Provide habitat conditions and management activities that contribute to the recovery of Federally listed T&E species and to Sensitive species found on the Forest. Emphasize the recovery of each species, by managing for quality habitat, consistent with ecological processes.

Provide for more than the minimum number of bald eagle and peregrine falcon pairs established by the Recovery Plans and disaggregated to the Forest.

Late Successional Reserves

Late-Successional Reserves are designed to provide for the viability needs of all late-successional species in an ecosystem approach. Meet the habitat requirements as outlined in the *Record of Decision (ROD) for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl* signed April 13, 1994 and the *Final Supplemental Environmental Impact Statement on Management of Habitat for Late Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl* dated February 1994 (FSEIS).

Description

LSRs have been designated based on 5 elements: (1) areas mapped as part of an interacting reserve system; (2) Late-successional/Old Growth 1 and 2 areas within Marbled Murrelet Zone 1 and certain owl additions, mapped by the Scientific Panel on Late-Successional Forest Ecosystems (1991); (3) sites occupied by marbled murrelets; (4) known owl activity centers; and (5) Protection Buffers for specific endemic species identified by the Scientific Analysis Team (1993). Additional areas may be included as species are identified as provided for in the survey and management standards and guidelines.

Management Goals

The objective of LSRs is to protect and enhance conditions of late-successional and "old growth" forest ecosystems, which serve as habitat for late-successional and "old growth"-related species including the northern spotted owl. These reserves are designed to maintain a functional, interacting, late-successional and "old growth" forest ecosystem.

Desired Future Condition

The characteristics of individual areas vary according to the dominant vegetative species, site class, topography and other site factors. Well-dispersed and continuous areas of multi-layered forests with high quality habitat characteristics and attributes are common: (1) under optimum conditions on north slopes, (2) at high elevations, and (3) in cool, moist areas. The overstory trees are large diameter, tall and have obvious signs of decadence. Some are broken-topped, have mistletoe, or have platforms of branches capable of holding organic materials that serve as a nest. Snags are common and fallen trees visible on the ground, providing for adequate prey populations. Within true fir habitats or where hardwoods occur, mid-seral stage forested areas provide suitable habitat as well. Although overstory trees are smaller and stands are less dense, important structural elements, such as snags and nesting platforms, are present. South slopes and drier areas are more open due to frequent natural fires.

Exceptions

RNAs and activities required by recovery plans for listed T&E species take precedence over LSR standards and guidelines.

Management Assessment for Late-Successional Reserves

Management assessments have been completed for LSRs and 100-acre LSRs throughout the Forest. These LSR assessments include: (1) a history and inventory of overall vegetative conditions within the reserve, (2) a list of identified late-successional associated species known to exist within the LSR and information on their locations, (3) a history and description of current land uses within the reserve, (4) a fire management plan, (5) criteria for developing

appropriate treatments, (6) identification of specific areas that could be treated under those criteria, (7) a proposed implementation schedule tiered to higher order (for example, larger scale) plans, and (8) proposed monitoring and evaluation components to help evaluate if future activities are carried out as intended and achieve desired results. The Regional Ecosystem Office (REO) has reviewed these LSR assessments. Activities that have been reviewed by the REO have been prioritized for each LSR. LSRs have also been prioritized by activity needs. Refer to the Forest-wide LSR assessment, Taylor, Dillon, Crapo/Little North Fork, and Goosenest LSR assessments. Also, refer to Appendix K, LSR Fire Management Plan, located at the end of this document.

Standards and Guidelines

- MA5-35 Each LSR will be included in fire management planning as part of watershed analysis. Fire suppression in LSRs will utilize minimum impact suppression methods in accordance with guidelines for reducing risks of large-scale disturbances. Plans for wildfire suppression will emphasize maintaining late-successional habitat. During actual fire suppression activities, fire managers will consult with resource specialists (for example, botanists, fisheries and wildlife biologists, hydrologists) familiar with the area, these standards and guidelines and their objectives, to assure that habitat damage is minimized. Until a fire management plan is completed for LSRs, suppress wildfire to avoid loss of habitat in order to maintain future management options.
- MA5-36 In LSRs, a specific fire management plan will be prepared prior to any habitat manipulation activities. This plan, prepared during watershed analysis or as an element of province-level planning or a LSR assessment, should specify how hazard reduction and other prescribed fire applications will meet the objectives of the LSR. Until the plan is approved, proposed activities will be subject to review by REO. REO may develop additional guidelines that would exempt some activities from review. In all LSRs, watershed analysis will provide information to determine the amount of CWD to be retained when applying prescribed fire.
- MA5-37 In LSRs, the goal of wildfire suppression is to limit the size of all fires. When watershed analysis, province-level planning, or a LSR assessment is completed, some natural fires may be allowed to burn under prescribed conditions. Rapidly extinguishing smoldering CWD and duff should be considered to preserve these ecosystem elements.
- MA5-38 Utilize an aggressive prescribed fire program to maintain long-term habitat quality and ecological processes within LSRs once LSR assessments and National Environmental Protection Act (NEPA) analysis are completed and site-specific decisions are made. Specific fire prescriptions shall be used until PNF can be effectively used. The use of PNF is outlined in the Wilderness Fire Management S&Gs. Those S&Gs also shall apply to LSRs.
- MA5-39 Report wildfires within activity centers to the appropriate District and/or Forest biologist. The biologist shall determine the need to contact the USFWS. Report fires

that escape initial attack to the USFWS. Motorized and heavy equipment may be permitted by the Incident Commander to assure habitat protection.

- MA5-40 Wildfire prevention should be critical to habitat maintenance. During critical fire danger periods, increased prevention efforts should be undertaken, especially in high use recreation areas within LSRs and in areas adjacent to populated areas.

Peregrine Falcon

Description

Areas to be managed for peregrine falcon include nest sites and protective zones around nest sites. These nest sites occur on cliffs, generally near riparian habitats. A Peregrine Falcon Recovery Plan was approved in August 1982.

Management Goals

Provide habitat that will contribute to the recovery of the Pacific peregrine falcon. Management activities consistent with the USFWS's approved Recovery Plan are expected to accomplish this goal.

Manage peregrine habitat on the Forest to protect and maintain nesting and foraging sites.

Desired Future Condition

Peregrine falcons are nesting on tall cliffs across the Forest. Adjacent habitat areas, especially riparian areas, provide the nesting birds with an adequate supply of prey species. Human disturbance during the breeding season is infrequent.

Standard and Guidelines

- MA5-76 Report wildfires within the primary protection areas to the appropriate District and/or Forest biologist. The biologist shall be responsible for contacting the USFWS, if appropriate.
- MA5-77 Implement the appropriate suppression response and minimum impact suppression techniques.
- MA5-78 Design fire prescriptions to maintain or improve peregrine falcon habitat and restore ecological processes.

Managed Wildlife

Description

A Managed Wildlife Area has been established on the westside of Indian Creek on the Happy Camp Ranger District, which provides habitat for a broad range of species dependent on structural features common to late-successional vegetation in an ecosystem approach. This area includes one Sensitive wildlife species, fisher (*Martes pennanti*).

The Managed Wildlife Area is at low to mid-elevation (below 4,000 feet). It currently provides open to dense stands of mid- to late-seral stage conifers. The area also has inclusions of early seral stage vegetation.

Management Goals

Manage the area to provide for late-successional habitat.

Manage habitat attributes, compatible with ecological processes, to provide moderate to high quality habitat conditions on the Forest as defined in the Fisher Habitat Capability Model (refer to Appendix I of the EIS).

Test and demonstrate the effectiveness of treatments for use in LSRs in an adaptive management approach.

Desired Future Condition

Large stands of mid- to late-seral stage, mixed conifer or Douglas-fir provide habitat for a variety of species. Canopy closures are as dense as the capability of the site allows. Hardwoods occur as a component of the coniferous forest, or as pure stands providing for acorn woodpeckers and squirrels. Many forest stands are multi-layered.

Large snags and logs are available, serving as denning and resting habitat for fisher as well as maintaining populations of cavity-dependent species, fungi, arthropods, bryophytes, amphibians and other organisms. Stream riparian areas, where present, are well-developed with dense forest providing travel habitat for fisher as well as maintaining populations of frogs, turtles and birds. Signs of vegetative management might be noticeable, but do not occur as large openings. Open roads are managed at desired levels.

Standards and Guidelines

MA6-14 Prescribed fire or biomass utilization may be used to reduce fuel build-ups and to enhance or maintain suitable habitat, consistent with management area objectives and the fire management plan.

Special Interest Areas

The Little Grider Debris Avalanche SIA was established for geologic significance. It is located in the northern portion of the FMU.

Description

Special Interest Areas (SIAs) are sites designated for recreational experiences where education and interpretation of unique or special natural resource values are emphasized. Highlighted are botanical and geologic features to increase Forest visitor appreciation of resource values and natural diversity within the Forest.

Management Goals

Manage for ecological processes and the unique features for which the area was designated.

Promote public use, education, interpretation and enjoyment of the special interest values of the area when such activities do not harm the values for which the area was designated.

Desired Future Condition

The vegetative, geologic and other natural features are enhanced to emphasize the unique resource for which the area was designated. Few signs of management activities are present, other than to provide public access and accommodations. Minor vegetative clearing is evident to allow

Standards and Guidelines

MA7-20 Manage prescribed natural fire, prescribed fire, and biomass utilization to maintain the ecological processes within the SIA. Protect all facilities and developments.

Cultural Management Areas

The King Creek FMU contains a large portion of the Inam Cultural Area. There is the potential for fire management activities to conflict with cultural ceremonies. Check with local district personnel regarding timing of ceremonial activities.

Description

This management area includes the Helkau and Inam areas on the Happy Camp Ranger District and the Cottimien area on the Ukonom Ranger District. These areas have significant historic, as well as contemporary, spiritual values for the Karuk Tribe of California. These areas are to be managed to maintain special Native American ceremonial values.

For a complete listing of Cultural Areas, refer to Table 4-20, Areas Allocated to Cultural Areas in the Forest Plan (page 4-123).

Management Goals

Provide protection of the ceremonial values that exist in these areas.

Manage to preserve and protect the solitude and privacy of Native American users.

Desired Future Condition

The area is generally forested and influenced primarily by ecological processes. Signs of management activities are not readily apparent. The integrity of the area for use by the Karuk Tribe of California is maintained in a manner consistent with their custom and culture.

Standards and Guidelines

MA8-1 All coordination will be facilitated through the Tribal Government Program.

MA8-3 Coordinate planned Forest management activities for areas immediately next to cultural areas with the Tribe. Determine if the activities would affect ceremonies occurring within the cultural area. Mitigation measures should be used to avoid conflicts with ceremonial activities.

MA8-13 If a fire escapes initial attack, a tribal representative should be requested to work with the Forest Service during the fire containment efforts.

MA8-14 Use PNF, prescribed fire and biomass utilization to reduce fuels buildups or for the management of vegetation, such as beargrass. Coordinate prescribed fire activities with the Karuk Tribe of California.

Retention VQO

Description

These areas are scattered throughout the Forest. They typically are found: (1) in the foreground of high visual sensitivity roads, trails, etc., (2) in the foreground or middle ground of areas with Variety Class A scenery or (3) areas seen from local communities (USDA Agriculture Handbook #462, National Forest Landscape Management, Vol. 2, Chapter 1). These roads and

trails typically receive high levels of public use, or access recreation sites or areas with visually pleasing scenery.

Management Goals

Provide a level of attractive, forested scenery by maintaining the areas in a natural or natural-appearing condition. Manage human activities so they are subordinate to the characteristic landscape. Also, manage human activities so they are not evident to the casual Forest visitor.

Manage for a programmed, sustained harvest of wood products in areas that are capable, available, and suitable for timber management.

Maintain stand health, as well as resilience to wildland fire, insect, disease, and other damage.

Desired Future Condition

The signs of management activities are not apparent. Views from visually important roads and trails appear forested and provide a natural or natural-appearing forest.

Vegetative or ground-disturbing management activities that have been implemented repeat form, line, color, and texture that represent characteristics of the landscape. Changes in their qualities of size, amount, intensity, direction, pattern, etc. are not evident to the average Forest visitor.

Standards and Guidelines

MA11-14 Use prescribed fire to reduce natural fuel buildups, to treat post-harvest fuels and to influence vegetative development or composition when there is no market for the slash or down wood.

MA11-15 Design fuelbreaks to mimic the natural characteristics of the area. On steep ground, design units that are operationally feasible and effective to treat fuels.

Recreational Rivers

The Outstandingly Remarkable Values for the recreational segment include fisheries, geology, wildlife and cultural values.

Description

This prescription applies to those Recreational River segments of either designated components of the National WSRs System or rivers being recommended for possible inclusion in the National System.

The Recreational classification applies to those rivers or sections of rivers that: (1) are free-flowing, (2) are readily accessible by road or railroad, (3) may have some development along the shorelines and (4) may have undergone some impoundment or diversion in the past.

For a complete listing, in the Forest Plan, refer to Table 4-25, Acres Allocated to Designated and Recommended Recreational Rivers (page 4-155).

Management Goals

Preserve the Recreational Rivers in a free-flowing condition. Protect the rivers and their immediate environments for the benefit and enjoyment of present and future generations.

Protect and enhance the outstandingly remarkable value(s) for which the river(s) are or would be designated, while providing for public recreation and resource uses that do not adversely impact or degrade those values.

Desired Future Condition

The waterway remains generally natural and riverine in appearance. The physical and biological integrity of the aquatic system is maintained. Habitat for anadromous and resident fish species is in good condition, capable of supporting viable populations of indigenous species. The river area may be developed for the full range of agricultural and forestry practices show evidence of past and ongoing timber harvest or include some residential, commercial, or similar development.

Standards and Guidelines

MA13-17 Fire management strategies should normally follow those of the surrounding area. Recognize and incorporate the Recreational river values into the fire suppression tactics. Prescribed fire may be used within the management area to maintain the ecological functions, if it maintains the outstandingly remarkable values for which the river was designated.

Partial Retention VQO**Description**

This prescription applies to those areas identified with a Partial Retention VQO. It encompasses 188,500 acres. These areas typically are either in the foreground of moderate visual sensitivity roads, trails, etc., or the middleground of high sensitivity roads.

Scattered throughout the Forest, these areas are primarily in the middle distances (1/2 to 3 miles) from selected roads and trails.

Management Goal

Provide an attractive, forested landscape where management activities remain visually subordinate to the character of the landscape. Manage human activities so they are subordinate to the character of the landscape.

Maintain stand health as well as resilience to wildland fire, insect, disease, and other damage.

Desired Future Condition

Areas managed to meet a Partial Retention VQO may show evidence of management activities but are visually subordinate to the characteristic landscape in form, line, color, or texture of landscape elements. Views from visually important roads and trails appear forested and provide a nearly natural looking landscape.

Lands capable of growing coniferous vegetation are forested.

Standards and Guidelines

MA15-15 Use prescribed fire to reduce natural fuel buildups, to treat post harvest fuels and to influence vegetative development or composition when there is no market for the slash or down wood.

MA15-16 Design fuelbreaks to mimic the natural characteristics of the area. On steep ground, design units that are operationally feasible and effective to treat fuels.

General Forest

Description

Scattered throughout the Forest, these areas make up about 11% (262,000 acres) of the Forest land base. They are lands that are capable, available, and suitable to be managed for a host of resource conditions, including structural component and commercial outputs. They currently support a variety of vegetation including shrubs, hardwood species, and various tree species in varying sizes and densities. They are areas where timber outputs, consistent with Forest-wide management goals, are of a high priority.

Management Goals

Provide a programmed, non-declining flow of timber products, sustainable through time. These levels may vary from year to year, based on ecological processes. Maintain conifer stocking levels and high growth rates commensurate with the capability of the site to produce wood fiber. Intensively manage young regenerated stands to maximize growth potential.

Maintain stand health, as well as resilience to wildland fire, insect, disease, and other damage. Emphasize salvage and restoration from catastrophic events. Reforest capable, but currently non-stocked, lands.

Emulate ecological processes and stand and landscape patterns where possible. Within harvest units, maintain appropriate structure, composition, and ecological functioning of the area.

Provide for snags and hardwood habitat to help maintain viable populations of wildlife species that require these structural components.

Meet the VQOs. Achieve less modified visual conditions when possible.

Develop a transportation system to transport Forest commodities efficiently to available markets.

Where possible, adjust planting levels to reduce pre-commercial thinning and fuel hazard costs in the future.

Desired Future Condition

The mosaic of healthy forest stands is comprised of a variety of vegetative species. The composition of individual stands varies considerably depending on forest type and seral stage development. Although openings with hardwoods, shrubs, grasses, and forbs are apparent, forest stands consist primarily of conifers. In some areas, the conifer component of the vegetation is sparse (due to vegetative manipulations or natural conditions). All areas maintain some structural components of older stands. Some areas support mature forest stands. The oldest stands are between 80 and 120 years old. Generally, this portion of the forest has younger trees than the surrounding areas. Stand sizes vary with topography and the landscape pattern of surrounding areas.

Regeneration openings have clumps of green trees on at least 15% of the area. Existing seed tree and shelterwood stands retain their residual trees (3 to 12 trees/acre) for structural diversity.

Stocking control maintains healthy, vigorously growing stands.

Reforestation, timber harvesting, and stand tending activities are commonplace. A network of roads provides access throughout these areas.

Habitat for species, which use early and mid-seral stages, is abundant.

Standards and Guidelines

MA17-15 Use prescribed fire to reduce natural fuel buildups, to treat post harvest fuels and to influence vegetative development or composition when there is no market for the slash or down wood.

MA17-16 Design fuelbreaks to mimic the natural characteristics of the area. On steep ground, design units that are operationally feasible and effective to treat fuels.

3.2.3 FMU Characteristics

King Creek water shed extends from Baldy Mountain Lookout on the North East corner to the Marble Mountain Wilderness on the Southwest corner. A portion of the community of Happy Camp is in the northeast corner of the FMU. There are residences located along the river corridor through the entire FMU.

3.2.3.1 Safety

There are several aviation hazards identified in this FMU. This includes phone lines across the Wingate Bar road and at the Sewer Plant. There are several locations where power and phone lines cross the river in Happy Camp and Curley Jack Campground. The Independence Bridge is also identified as an aviation hazard. A detailed list of aviation hazards can be found on the SDE server in the Klamath Library under Fire Management.

Access roads to this water shed The Titus Ridge to Independence road system on the south and Clear Creek to Benjamin /Doolittle road system to the north. These roads see significant use for hunting and local woodcutters.

The 2007 Little Grider Fire and 2007 -2008 Elk Complex/ Panther fire have generated significant areas of standing snags near roads.

3.2.3.2 Physical

The northern most point of this FMU includes the community of Happy Camp. Baldy Mountain is located in the northwest corner. The mouth of Elk Creek is in the northeast corner. Titus Ridge forms the eastern boundary. Titus Peak and Johnsons Hunting Ground are prominent features on the east side. Independence Lake is located in the southern tip of the FMU. The southern boundary is the ridge between King and Ukonom Creeks. The western boundary is

formed by the ridge system connect small face drainages along the Klamath River from Ukonom Creek to Clear Creek. The northwest portion of the FMU includes Oak Flat, Benjamin and Little Grider Creek drainages.

Roughly one third of this FMU has relatively gentle topography, with slopes of 45% or less. The gentler slopes tend to occur around the community of Happy Camp and west of the river between Clear Creek and Crawford Creek. Although there are isolated areas with slopes in excess of 90%, most of the steepest slopes occur along the Klamath River.

Slope Class	Acres	Percent of Area
<30%	9,588	18%
30-45%	12,771	25%
45-60%	15,669	30%
60-90%	13,446	26%
>90%	347	1%

The elevation ranges from about 800 feet to just over 6700 feet at the southern tip of the FMU above Independence Lake. Elevation ranges are classified consistent with the major ecological zones in the Klamath Mountain Bioregion (Sugihara et al 2006). Generally the area <2000 feet occurs along the Klamath River canyon and the lower reaches of King; Independence; Titus; Oak Flat and Little Grider drainages. The majority of the FMU is between 2000 and 4200 feet. A very small portion (roughly 1000 acres) of the FMU extends above 4200 feet in the northern portion. The southern tip of the FMU extends above 6000 feet.

Elevation Zone	Acres	Percent of Area
Lower Montane (<2000 ft)	16,228	31%
Mid–Upper Montane (2000-4250 ft)	30,420	59%
Upper Montane to Subalpine (4250-6000 ft)	4,908	9%
Subalpine(>6000 ft)	310	1%

Inversions generally set in at around the 4200 foot level. When this occurs smoke will settle into the drainages below 4200, impacting both availability of aviation resources and local air quality in the surrounding communities. The Happy Camp helibase is located in this FMU. Inversions and smoke have the potential to impact air support to other fires, when visibility affects air operations at the helibase.

3.2.3.3 Biological

Vegetation is grouped by Wildlife Habitat Relationship (WHR) Vegetation Type. Conifers are the dominant life form within the FMU. The high proportion of non vegetated areas in this FMU is due in part to the community of Happy Camp being mapped as urban areas. Although conifers are the dominant life form in this FMU, there is a higher proportion of hardwood dominated stands. Much of the area characterized as hardwood dominated, are mixed stands

of Douglas-fir and tanoak or Douglas-fir and canyon live oak. In these stands hardwood cover equals or exceeds the conifer cover.

WHR Life Form	Acres	Percent of Area
Non-vegetated & Herbaceous	6,205	12%
Shrub Vegetation Types	2,210	4%
Hardwood Dominated	13,601	26%
Small Conifers (<11" dbh)	4,214	8%
Large Conifers (>11" dbh)	25,638	49%

There have been several recent (2006-2008) large fires in this FMU since the vegetation mapping was completed. The older plantations within this FMU were generally not located within any recent fire perimeters. Roughly half on the plantations in the 20-40 year age class are within recent fires. Many of these plantations are scheduled to be replanted.

Plantation Age	Acres	Percent of Area
>40 Years	1,250	2%
20 – 40 Years	1,350	3%
<20 Years	405	1%

Anadromous Fisheries

There are four anadromous species, as well as resident trout species in this FMU. The anadromous fish species habitat is primarily limited to the Klamath River and the lower reaches of smaller tributaries. Winter steelhead and Coho Salmon have the widest distribution with habitat found in Curley Jack; Wingate; Clear; Titus; Independence and King Creeks. Although they both use these streams, Coho use does not extend as far steelhead. Fall Chinook habitat is mapped for portions of Clear and Independence Creeks. Summer steelhead habitat extends to Clear Creek.

Fish Species	Species Status	Miles of Habitat
Coho Salmon	ESA listed as Threatened	20.4
Fall Chinook	FS designated Sensitive	18.3
Spring Chinook	FS designated Sensitive	0
Summer Steelhead	FS designated Sensitive	17.6
Winter Steelhead	FS designated Sensitive	26.6
Resident Trout	Unlisted	28.1

Here is where we should include reference to established drafting sites and appropriate language for minimizing impacts to anadromous fish species (i.e., use of fish screens)

Wildlife

A portion of the Ten Bear LSR extends into this FMU. There are five 100 acre LSRs. They are located in Crawford; Wingate; Titus; Little Grider and Benjamin Creek drainages.

There are two Goshawk Management Areas in this FMU. One is located in Little Grider Creek (T16N; R7E: SW ¼ Sec 10). The other is located in Curley Jack Creek (T14N; R7E; E ½ Sec 10).

A Peregrine Falcon Management is located on the Klamath River in the vicinity of King Creek. Aircraft operations in close proximity could constitute a disturbance. Consideration should be given to minimize potential for disturbance without compromising safety and wildfire management objectives.

3.2.3.4 Resources

There are scattered private holdings along the Klamath River corridor. A good proportion of the community of Happy Camp is included in this watershed. Clusters of structures and homes exist at Independence Bridge, Clear Creek and increasing in density along the river toward Happy Camp.

The Happy Camp FSC Point of contact is George Harper (530) 496-2990

The King Creek FMU contains a large portion of the Inam Cultural Area. There is the potential for fire management activities to conflict with cultural ceremonies. Check with local district personnel regarding timing of ceremonial activities.

Campgrounds	Trailheads	River Accesses	Protection Points
Curley Jack	Johnsons Hunting Ground	Indian Creek	None specifically identified for this FMU
		Wingate Bar	
		Ferry Point	
		Independence	
		Chambers Flat	

3.2.4 FMU Fire Environment

A total of 357 fires have occurred over the period of record (1911 – 2009). The majority of fires have been caused by lightning (60%). Roughly 40% of the FMU has not burned during the period of record. Most fires are suppressed at less than 10 acres. A total of 88 fires have a mapped perimeter (25% of all ignitions). These fires burned a total of 58,882 acres, with 28,021 acres having at least two fires occurring over the period of record. The average fire size is 669 acres. The largest fire (King Titus) occurred in 1987. The King Titus fire has been identified as the largest fire of record in three of the Happy Camp FMUs. This fire was contained at 60,165 acres and burned 9,578 acres within this FMU.

There are several recent large fires of record within this FMU (2006-2008). Most of the large fire activity has occurred east of the river. Opportunities to confine wildfires using recent wildfires and natural barriers can be found along the southeast portion of the FMU. North and west of the Klamath River there are fewer options to confine a fire within the FMU.

There are Dozer lines from the 2007-2008 fires on Titus ridge. The Dutch Creek - Independence Ridge also has dozer lines that were successfully defended in 1987 and 2007.

3.2.4.1 Fire Behavior

This FMU is dominated by timbered fuel types. Timber litter models (184-189) make up the majority of the fuel type in this FMU. These are moderate to high load timber litter models with higher rates of spread and flame length for this fuel group. Much of the FMU has numerous large diameter snags within the perimeters of fires that have occurred in 1987 and 2006-2008.

Shrub fuel models constitute the next highest percent of area. Roughly 60% of the shrub fuel types are represented by low to moderate load fuel models (141 and 142) with low flame lengths and rates of spread. This fuel model represents much of the areas burned in recent wildfires. These fuel models tend to occur within more recent fire perimeters on the south and east portion of the FMU. Fuel model 145 represents much of the remaining fuels within this group. This fuel model represents both shrub dominated vegetation types as well as young conifer stands. The majority of the fuel model is found north and west of the river.

Fuel Model Group	Average Size	Largest Polygon	Total Acres	Percent of Area
Unburnable	2.1	53	1%	1%
Grass	3.1	126	4%	5%
Grass/Shrub	2.0	56	3%	8%
Shrub	3.2	226	24%	23%
Timber Litter low ROS/FL	3.8	327	20%	11%
Timber litter high ROS/FL	4.6	1,532	25%	30%
Timber US low ROS/FL	10.2	2,211	21%	12%
Timber US high ROS/FL	2.1	34	1%	9%
Slash/Blowdown	9.4	44	<1%	1%

3.24.2 Weather

This FMU is in Fire Weather Zone CAZ280 and NFDRS Zone 200. This FMU is in the Northwest Mountains Predictive Service Area (NC04).

Slater Butte is the closest RAWS location with weather history. It is a ridge top RAWS adjacent to the Slater Butte Lookout at an elevation of 4670 feet. This RAWS is strongly influenced by east winds that are channeled and accelerated down the Klamath River canyon. Somes Bar RAWS provides good representation of low elevation conditions. The Somes Bar site is located on the valley bottom at an elevation of 920 feet. It is a hot dry site if there is no marine influence and provides a good record of upriver afternoon canyon winds. (reference John Snook ONCC RAWS remarks 2008).

A RAWS was located on the Dutch Creek - Independence Ridge called Dutch Indy in 2010. This RAWS is at 1800 feet. This site was selected to fill in a gap of information about fire weather conditions in the mid slope areas that are affected by inversions. Initial review of RAWS data indicate that this site may be representative of thermal belt conditions that occur when strong inversions set in during fire season.